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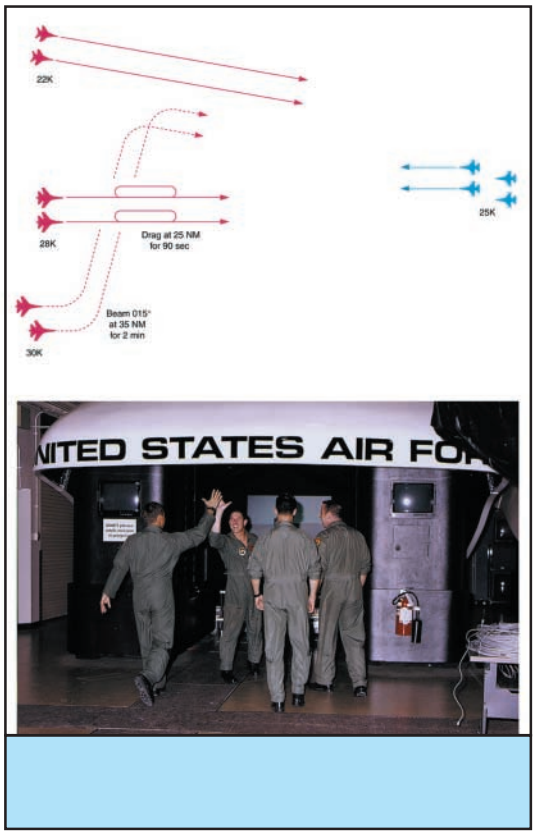
Science and Technology for Tomorrow's Aerospace Forces

Success Story

DISTRIBUTED MISSION TRAINING EFFECTIVENESS



The Air Force Distributed Mission Training (DMT) program provides pilots and other warfighters with ground-based training for complex, multi-player combat operations using a network of flight simulators and other systems. This shared training environment, comprised of live, virtual, and constructive simulations, trains warfighters individually or collectively at all levels of war. DMT allows multiple players at multiple sites to engage in instructionally valid training scenarios focusing on individual, team, and intra-team competencies development, as well as refresher training within a realistic combat-oriented environment.

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Accomplishment

The Human Effectiveness Directorate, Warfighter Training Research Division's Training Systems Technology team is providing DMT system data to the Air Combat Command (ACC) for aircrew training. This data identifies the tasks and missions best suited for DMT, defines system capabilities required for effective distributed training, and creates a strategy for developing future training programs using DMT for fighter pilots and air weapons controllers. Research using DMT for Flight Leader Upgrade, Instructor Pilot Upgrade, and Fighter Weapons Instructor course training programs demonstrates the return-on-investment available through the effective integration of learning objectives-based DMT syllabi with existing operational academic and live-flight aircraft training.

The directorate, supported by the ACC DMT office, an instructor pilot, and Airborne Warning and Control System (AWACS) controllers, conducted training exercises during 1999-2000 for mission-qualified F-16 pilots. DMT, complemented with aircraft training, enhances warfighter proficiency and reduces the need for repeated training flights at home units. The Fighter Weapons School syllabus served as the initial test and validation for new F-16 weapons employment standards implemented in the school. Directorate personnel at the Mesa test bed evaluated and adjusted the standards more rapidly than using live-flight exclusively.

Background

Structured interviews with F-16 instructor pilots and unit commanders indicate that many mission-qualified pilots lack recent experience in four-ship tactics. Reasons include high cost, scheduling difficulties, constrained airspace, very limited availability, and interactions with AWACS controllers. The directorate's Training Systems Technology team developed and tested DMT training syllabi and measurement methods that augment live-flight aircraft training with high-fidelity, multi-player simulation.

The training research syllabi involve the four-ship, F-16 DMT test bed, located in Mesa, Arizona, integrated with the AWACS simulation facility, located at the directorate's facility at Brooks AFB, Texas. In addition, the syllabi include the constructive integrated air defense system, developed and operated by the Air Force Information Warfare Center at Kelly AFB, Texas.

DMT allows participation from each weapon system and mission area using almost any type of networkable training device. Additionally, computer-generated or constructive DMT provides realistic and reactive threats for developing and evaluating tactics.

Human Effectiveness
Support to the Warfighter

Additional information

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